**From:** Pehosh, Michael C. [michael.pehosh@nreca.coop]
**Sent:** Fri 4/9/2004 2:23 PM
**To:** RUSComments(a)usda.gov
**Subject:** Specifications and Drawings for 12.47 / 7.2 kV Line Construction (1728F-804 Draft)

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Friday April 9, 2004

Please find attached in a word document a compiled list of comments that was forwarded to NRECA by engineering and operations personnel at electric cooperatives.

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Subject: RUS Comments on proposed 1728F-804
To: RUS Electric Staff e mail: RUSComments@usda.gov
From: Michael C Pehosh, P.E.
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The following is a compiled list of comments that were e mailed to me as a result of a solicitation for comments from the Engineering and Operation Community on cooperative.com. The comments are copied and pasted as sent to me. I also have included some comments of my own.

I have inserted names and cooperative with each comment.

Michael,

I noticed on the new specs that split bolts are not called for on any of the structures. We , at Benco Electric Cooperative, have found that including split bolts in the pole tops and On cross arms, that we negate having to go back at a later time to install them. We use mostly cedar poles etc..
Something to consider.

Gary G. Gowans
Engineering assistant
Benco Electric Cooperative
Mankato Mn 56002-0008

Mike,

We have been using Bulletin 1728-803, Specifications and Drawings for 24.9/14.4 kV Line Construction, since it came out in December of 1998. We have executed a number of contracts under these specifications, and have discovered flaws that have not been addressed in the new specifications. When installing a tap off of a structure there are no items associated with connectors and jumpers unless you add a device or reference a guide drawing. This has caused problems with contractors, because they claimed that they did not bid jumpers and connectors on taps unless it was on the material list of the assembly. I would like to see where the assembly drawing would include the jumpers and connectors as required, or convert the guide drawing on taps to an assembly drawing. This also goes for the insulated guy link.

The insulated guy link guide drawing in Bulletin 1728-803 is an E5.1G, and in the proposed 1728-804 it is an E1.5G. These numberings are not consistent between the two specifications.

I would also like to see an assembly drawing S1.1/S1.2, where the S1.2 is identical to the S1.1 except the fuse cutout is replaced with a fuse cutout and arrester combination. This is another problem we have come across with our dealings with contractors.

Mike Garbow
Manager of Engineering
Petit Jean Electric Coop

A9-B9-C9 should be a single arm construction, A9-1 B9-1 C9-1 should be a double arm construction. All other types of framing, when you add a "1" behind the framing, it means to add an extra arm. I've always thought this is backwards. Over the past several years I've talked with a lot of lineman. They agree, "it should be changed!"

Norman Williams
Wheatland Electric Cooperative
Scott City, Kansas

I took a quick look at the proposed new specs for the 12.5/7.2 Kv spec book. I would like to comment that the book differs from the new 14.4 Kv specs that have been released. We were the guinea pigs, I guess. They corrected some things and added specs that were not included in the 14.4 spec book, such as the VA1-1 and the VA6 that were omitted from the new14.4 Kv book. They also included the old spec number as well as the new number, which is a great help. How can I campaign to get them to revise the new 14.4 to match this 12.5 book? It would also be helpful for the employees that might change employment and go from one spec book to the other, if both books are the same. I would appreciate knowing who I may contact on this matter. Or, if you guys can pass these comments along.

Thank you,
Patsy Tankersley
Gunnison County Electric Association
970-641-7338
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Personal Comments:

1. Looking at H1.1 note 3 says or use galvanized steel ground rod, staples and aluminum ground wire--- This implies that the aluminum wire is used to connect to the galvanized ground rod. I do not believe that you want aluminum wire below ground level.

2. Also the drawing shows that the ground wire is stapled to the pole below ground level and tied to the ground rod that is to have 12 inches of dirt on top of it. I know that this is the same as in the old specification however I would recommend that there should be some construction notes that show how the ground conductor is brought back up the pole and over to the ground rod. I believe that a detail construction drawing showing how the ground rod and conductor is connected one foot below the surface would emphasize the necessity of doing this correctly. I suspect that there are more improper ground rod installations than good ones with many of them being installed in the pole hole at the time the pole is installed. The reality is that many of the driven ground rods will have the ground rod top just above ground or just below the ground level. More emphasis needs to be put on the need for the ground rod to be driven in undisturbed soil in order to have a chance for a decent ground connection.

3. The connection that is specified "P" in this H set of drawings only says compression. P does cover a multitude of connections and they are listed in the list of materials. However, a note to emphasize the connector to the type of wire being used would be helpful. If it is aluminum to copper, it needs to be rated for that duty and if it is copper to copper it should only be copper connector.

4. Is the old M2-2 or M2-12 butt plates have been moved to section "P" as protection assembly units. Since the NESC allows butt plates in certain instances for achieving the four ground per mile rule I believe that there should be a reference to these drawings in Section H at least showing that they have been moved to section "P".

5. It appears that the in-line disconnect switch drawing is left out of this document and I believe that it should be included in this new revision. The old unit is the M3-3B.

Michael C Pehosh, P.E.
NRECA